

WHAT IS CLAIMED IS:

1 1. A method for tensioning and positioning a fiber optic cable, comprising:
2 securing a first portion of the fiber optic cable to a first support;
3 securing a second portion of the fiber optic cable to a second support; and
4 creating a gravity-assisted moment arm with the second support to uniformly and
5 repeatably tension and position the fiber optic cable between the first and second supports.
6

1 2. A method for tensioning and positioning a fiber optic cable as recited in claim 1,
2 wherein the gravity-assisted moment arm is created by rotating a cam contacting the second support
3 to rotate the second support due to its weight.
4

5 3. A method for tensioning and positioning a fiber optic cable as recited in claim 2,
6 further comprising, prior to securing the first portion of the fiber optic cable, rotating the cam to
7 rotate the second support in a direction opposite to the direction that uniformly and repeatably
8 tensions and positions the fiber optic cable.
9

1 4. A method for tensioning and positioning a fiber optic cable as recited in claim 1,
2 wherein the first portion of the fiber optic cable is secured to the first support with a first clamp.
3

1 5. A method for tensioning and positioning a fiber optic cable as recited in claim 1,
2 wherein the second portion of the fiber optic cable is secured to the second support with a second
3 clamp.

4
1 6. A method for tensioning and positioning a fiber optic cable as recited in claim 2,
2 wherein the second support comprises a rotatable body portion integrally connected to a leg portion,
3 the leg portion contacting the cam to rotate the second support.
4

1 7. A method for tensioning and positioning a fiber optic cable as recited in claim 1,
2 further comprising aligning a glass optical fiber portion of the fiber optic cable with an alignment
3 mechanism provided between the first and second supports.
4

1 8. A method for forming a refractive-index grating in a fiber optic cable, comprising:
2 securing a first portion of the fiber optic cable to a first support;
3 securing a second portion of the fiber optic cable to a second support;
4 creating a gravity-assisted moment arm with the second support to uniformly and
5 repeatably tension and position the fiber optic cable between the first and second supports; and
6 etching grating lines in the fiber optic cable after the fiber optic cable has been
7 uniformly and repeatably tensioned and positioned.
8

1 9. A method for forming a refractive-index grating in a fiber optic cable as recited in
2 claim 8, wherein the gravity-assisted moment arm is created by rotating a cam contacting the second
3 support to rotate the second support due to its weight.
4

5 10. A method for forming a refractive-index grating in a fiber optic cable as recited in
6 claim 9, further comprising, prior to securing the first portion of the fiber optic cable, rotating the

cam to rotate the second support in a direction opposite to the direction that uniformly and repeatably tensions and positions the fiber optic cable.

11. A method for forming a refractive-index grating in a fiber optic cable as recited in claim 8, wherein the first portion of the fiber optic cable is secured to the first support with a first clamp.

12. A method for forming a refractive-index grating in a fiber optic cable as recited in claim 8, wherein the second portion of the fiber optic cable is secured to the second support with a second clamp.

13. A method for forming a refractive-index grating in a fiber optic cable as recited in claim 9, wherein the second support comprises a rotatable body portion integrally connected to a leg portion, the leg portion contacting the cam to rotate the second support.

14. A method for forming a refractive-index grating in a fiber optic cable as recited in claim 8, further comprising aligning a glass optical fiber portion of the fiber optic cable with an alignment mechanism provided between the first and second supports.

15. A method for calibrating a fiber optic cable tensioning and positioning apparatus having a first support and a second support rotatable relative to the first support, comprising:

securing a first portion of the fiber optic cable to the first support;

securing a second portion of the fiber optic cable to the second support;

Year	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	